

PTOL-413A (10-07)

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U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

**Applicant Initiated Interview Request Form**

Application No.: 10/552,200 First Named Applicant: Mark Allan Gibson  
 Examiner: GORDON STOCK JR. Art Unit: 2877 Status of Application: FIRST OFFICE  
SECOND ACTION

**Tentative Participants:**

(1) Dr. Rodriguez (2) Dr. Lynn Xu  
 (3) Sudhir Deshmukh (4) \_\_\_\_\_

Proposed Date of Interview: 4/16/08 Proposed Time: 2 (AM/PM)

**Type of Interview Requested:**

(1) ☐ Telephonic (2) ☒ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☒ NO

If yes, provide brief description: \_\_\_\_\_

**Issues To Be Discussed**

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) <u>102</u>	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) <u>102</u>	_____	<u>Cheetham</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) <u>103</u>	_____	<u>Falcoff et al.</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) <u>objection</u>	<u>"8"</u>	<u>+ others</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Continuation Sheet Attached <u>total pages 10</u>					

**Brief Description of Arguments to be Presented:**

AS PER ATTACHED PROPOSED AMENDMENT,  
PENDING REJECTIONS SHOULD BE OVERCOME

An interview was conducted on the above-identified application on 4/16/08.

**NOTE:** This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

Sudhir Deshmukh  
 Applicant/Applicant's Representative Signature

SUDHIR DESHMUKH  
 Typed/Printed Name of Applicant or Representative

33,677  
 Registration Number, if applicable

/Gordon Stock Jr/

Examiner/SPE Signature

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN THE APPLICATION OF:

CONFIRMATION NO. 8425

**Mark Alan Gibson, ET. AL.**

CASE NO.: FA1159 USPCT

SERIAL NO.: 10/552,200

GROUP ART UNIT: 2877

FILED: October 6, 2005

EXAMINER: STOCK JR, GORDON J

FOR: **Method of Producing Matched Coating Composition and Device Used Therefor****DRAFT FRO DISCUSSION PURPOSES ONLY**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Introductory Comments**

The following response is being submitted in view of the Office Action mailed on October 17, 2007 19, 2007 in which claims 1 - 26 were rejected.

**Petition to extend the time** to respond to the Office Action by three months accompanies this Response.

**Amendments to the Claims** are reflected in the Listing of Claims which begins on page 2 of this response.

**Remarks** begin on page 9 of this response.

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### Listing of Claims

1. (currently amended) A method for producing a matched coating composition for a specified end-use, said method comprising:

(i) measuring reflectances of a target portion of a target coating at a set of preset wavelengths with a spectrophotometer of a coating characterizing device to plot a target spectral curve of said target portion, wherein said target coating is an undamaged portion of an autobody, plastic substrate, marine substrate, and aluminum substrate;

(ii) calculating target color (L,a,b or L,C,h) values of said target portion from said target spectral curve of said target portion;

(iii) selecting one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color values, wherein said stored list of known colorants comprises pigments, dispersions, tints, dyes, metallic flakes or a combination thereof, and wherein under said combinatorial selection criteria:

shading with complimentary colorants is avoided and

preliminary colorant combination with fewer number of pigments is preferred;

(iv) determining concentration of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria wherein said concentration of each said known colorant is optimized for optimal match of color values of each of said preliminary colorant combinations with said target color values;

(v) balancing said preliminary colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more viable combinations optimized in accordance with mixing and regulatory criteria developed for said specified end-use;

(vi) selecting an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein said known colorants and non-colorant components when mixed in accordance with said optimal viable combination produce said matched coating composition that when

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applied as a matched coating visually matches with the appearance of said target coating, wherein said acceptability equation is expressed as:

$$\text{Acceptability value} = \sum \text{Acceptability factor}_i \cdot \text{weight}_i$$

wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability and cost and wherein the lower the acceptability value for the specified end use, the more optimal would be a viable combination; and

(vii) displaying on a screen of a monitor of said device said optimal viable combination.

2. (canceled).

3. (original) The method of claim 1 further comprising mixing said components of said optimal viable combination to produce said matched coating composition.

4. (original) The method of claim 1 further comprising applying said matched coating composition over a substrate to produce said coating that visually matches the appearance of said target coating.

5. (original) The method of claim 4 wherein said substrate is an automotive body.

6. (original) The method of claim 1 wherein said matched coating composition is an OEM automotive paint, refinish automotive paint, architectural paint, industrial coating composition, powder coating composition, printing ink, ink jet ink, nail polish, food colorant, eye shadow, or hair dye.

7. (original) The method of claim 1 wherein each of said preliminary colorant combinations comprising one to seven said known colorants.

8. (original) The method of claim 1 wherein said step (ii) comprises:

(a) directing a beam of light of a known intensity towards said target portion; and

(b) sequentially measuring at at least one aspecular angle said reflectances of said target portion at said set of preset wavelengths.

9. (original) The method of claim 1 wherein said step (ii) comprises:

(a) sequentially directing one or more beams of light of a known intensity at at least one incident angle towards said target portion; and

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(b) sequentially measuring at an aspecular angle said reflectances of said target portion at said set of preset wavelengths.

10. (original) A matched coating composition produced by the method of claim 1.

11. (original) A color characterizing device for producing a matched coating composition for a specified end-use, said device comprising:

(i) a spectrophotometer of said device having a base for positioning said spectrophotometer over a target portion of a target coating comprising an undamaged portion of an autobody, plastic substrate, marine substrate, and aluminum substrate;

(ii) means for calculating target color (L,a,b or L,C,h) values of said target portion;

(iii) a computer usable storage medium located in a computer of said device having computer readable program code means residing therein, said computer readable program code means comprising:

(a) means for configuring computer readable program code devices to cause said computer to select one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color space values, wherein said stored list of known colorants consists essentially of pigments, dispersions, tints, dyes, metallic flakes or a combination thereof and wherein under said combinatorial selection criteria:

shading with complimentary colorants is avoided and

preliminary colorant combination with fewer number of pigments is preferred;

(b) means for configuring computer readable program code devices to cause said computer to determine concentration of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria wherein said concentration of each said known colorant is optimized for optimal match of color values of each of said preliminary colorant combinations with said target color values;

(c) means for configuring computer readable program code devices to cause said computer to balance said preliminary colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more viable combinations optimized in accordance with mixing and regulatory criteria developed for said specified end-use; and

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(d) means for configuring computer readable program code devices to cause said computer to select an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein said known colorants and non-colorant components when mixed in accordance with said optimal viable combination produce said matched coating composition that when applied as a matched coating visually matches with the appearance of said target coating, wherein said acceptability equation is expressed as:

$$\text{Acceptability value} = \sum \text{Acceptability factor}_i * \text{weight}_i$$

wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability and cost and wherein the lower the acceptability value for the specified end use, the more optimal would be a viable combination.

12. (original) The device of claim 11 further comprising means for configuring computer readable program code devices to cause said computer to display on a screen of a monitor of said device said optimal viable combination.

13. (original) The device of claim 11 further comprising:

(a) means for configuring computer readable program code devices to cause said computer to generate a signal in accordance with said optimal viable combination to dispense said components for making a desired amount of said matched coating composition;

(b) a dispenser for dispensing said components in a container, said dispenser being in communication with said computer;

(c) means for configuring computer readable program code devices to cause said computer to generate a signal upon completion of making said desired amount of said matched coating composition; and

(d) means for configuring computer readable program code devices to cause said computer to generate a signal to said dispenser to stop dispensing of said components.

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14. (original) The device of claim 13 further comprising a mixer for mixing said components dispensed in said container.

15. (original) The device of claim 11 wherein said device is a transportable device.

16. (Currently Amended) A portable computer usable storage medium having said computer readable program code means of claim [[1]] 11 stored therein.

17. (Previously Amended) The portable computer usable storage medium of claim 16 wherein said medium is a CD-Rom.

18. (original) The device of claim 11 wherein said spectrophotometer is a multi-angle spectrophotometer.

19. (original) The device of claim 11 wherein said spectrophotometer is a sphere geometry spectrophotometer.

20. (currently amended) A method for producing a matched resin for a specified end-use, said method comprising:

(i) measuring reflectances of a target portion of a target substrate at a set of preset wavelengths with a spectrophotometer of a coating characterizing device to plot a target spectral curve of said target portion, wherein said target portion is an undamaged portion of said target substrate comprising an autobody, plastic substrate, or a marine substrate;

(ii) calculating target color (L,a,b or L,C,h) values of said target portion from said target spectral curve of said target portion ;

(iii) selecting one or more preliminary colorant combinations from a stored list of known colorants in accordance with a combinatorial selection criteria to match with said target color values, wherein said stored list of known colorants consists essentially of pigments, dispersions, tints, dyes, metallic flakes or a combination thereof and wherein under said combinatorial selection criteria:

shading with complimentary colorants is avoided and

preliminary colorant combination with fewer number of pigments is preferred;

(iv) determining concentrations of each said known colorant in each of said preliminary colorant combinations in accordance with color matching criteria to generate

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one or more intermediate colorant combinations of said known colorants wherein each of said intermediate colorant combinations is optimized for optimal color match with said target color values;

(v) balancing said intermediate colorant combinations to allow for the presence of non-colorant components in said matched coating composition to generate one or more viable combinations of said known colorants, wherein each of said viable combinations is optimized in accordance with mixing and regulatory practices developed for said specified end-use;

(vi) selecting an optimal viable combination from said viable combinations in accordance with an acceptability equation for said specified end-use, said optimal viable combination having an optimal acceptability value for said specified end-use wherein components in said optimal viable combination when mixed produce said matched resin that when formed as a matched substrate visually matches the appearance of said target substrate, wherein said acceptability equation is expressed as:

$$\text{Acceptability value} = \sum \text{Acceptability factor}_i \cdot \text{weight}_i$$

wherein said acceptability factors comprise color difference, metamerism, closeness of spectral curve match, durability and cost and wherein the lower the acceptability value for the specified end use, the more optimal would be a viable combination; and

(vii) displaying on a screen of a monitor of said device said optimal viable combination.

21. (original) The method of claim 20 further comprising:

(a) mixing said components in said optimal viable combination with a resin to produce said matched resin; and

(b) processing said matched resin into said matched substrate.

22. (original) The method of claim 21 wherein said processing step comprises injection molding, blow molding, rotational molding, thermoforming or extruding of said matched resin.

23. (original) A matched resin produced by the method of claim 20.



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24. (original) The method of claim 20 wherein said matched substrate is a dashboard or interior door panels of an automobile and said target substrate is automobile upholstery.

25. (original) The method of claim 20 wherein said matched substrate is automobile bumper guard and said target substrate is autobody.

26. (previously presented) The device of claim 11 or 13 wherein said computer is in communication with a host computer.

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### REMARKS

Each objection and rejection is addressed below under the original subject and numeric heading set forth in the Office Action.

#### Drawings and Specification

The drawings and specification were objected to for failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character not included in the specification, namely that designated by numeral 8. The foregoing objection is respectfully questioned since on page 5 in the last response received by US Patent Office on July 18, 2007 from the applicants, the applicants clearly at page 43, line 18 of the specification, as amended, state that "Device 1 further comprises means for configuring computer readable program code devices to cause computer 6 to display on a screen of a **monitor 8** of device 1 the optimal viable combination." (emphasis added) Thus, it is submitted that the applicants had fully complied with the requirements under 37 CFR 1.84(p)(5). Reconsideration of the objection is respectfully requested.

#### Claim Rejections – 35 USC §112, second paragraph

The Office Action stated that claims 16 and 17 were rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. To over the rejection claim 16 was amended to depend from claim 11 to provide proper antecedence.

#### Conclusion

Applicants respectfully submit that this draft of the claim amendments for discussion purposes only.

Respectfully submitted,

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Dated: April 15, 2008